

PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE INSTALLATION OF COUNTDOWN PEDESTRIAN SIGNAL HEADS, IP-BASED VIDEO DETECTION CAMERAS, APS PUSHBUTTONS AND SIGNS AT THE INTERSECTION OF US 29 (COLUMBIA PIKE) AT INDUSTRIAL PARKWAY. US 29 IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION.

INTERSECTION OPERATION

THIS INTERSECTION WILL OPERATE IN A NEMA FOUR-PHASE (TWO OVERLAPS) FULL-TRAFFIC-ACTUATED MODE WITH AN ALTERNATE PEDESTRIAN PHASE FOR THE NORTH LEG OF THE INTERSECTION. THE SOUTHBOUND LEFT TURNS AT THIS INTERSECTION OPERATE IN EXCLUSIVE PHASING.

CONTROLLER REQUIREMENTS

THE EXISTING FULL-TRAFFIC-ACTUATED EIGHT PHASE TRAFFIC SIGNAL CONTROLLER WITH TELEMETRY CABLE HOUSED IN A BASE MOUNTED CABINET SHALL REMAIN. A BASE MOUNTED CABINET ADJACENT TO THE MAIN CABINET SHALL ALSO REMAIN. A 2-WIRE APS CENTRAL CONTROL UNIT SHALL BE FURNISHED BY THE CONTRACTOR AND INSTALLED BY MONTGOMERY COUNTY. IP-BASED VIDEO DETECTION INTERFACE EQUIPMENT SHALL BE FURNISHED BY SHA AND INSTALLED BY MONTGOMERY COUNTY.

SPECIAL NOTES

APS WILL FUNCTION AS FOLLOWS:

TO CROSS US 29 (COLUMBIA PIKE):

- A. WHEN PEDESTRIAN LOCATES AND PRESSES PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT MESSAGE WILL BE "WAIT TO CROSS COLUMBIA AT INDUSTRIAL. WAIT."
- B. WHEN WALK PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.

CONTACT PERSONS FOR DISTRICT #3 ARE AS FOLLOWS:

MS. ANYESHA MOOKHERJEE
ASSISTANT DISTRICT ENGINEER-TRAFFIC
PHONE: (301) 513-7358

MR. TOM FOUNTAIN
ASSISTANT DISTRICT ENGINEER - MAINTENANCE
PHONE: (301) 513-7304

MR. DUANE BERNARD
ASSISTANT DISTRICT ENGINEER - CONSTRUCTION
PHONE: (301) 513-7385

CONTACT PERSONS FOR OOTS ARE AS FOLLOWS:

MS. CORREN JOHNSON
DIVISION CHIEF,
TRAFFIC OPERATIONS
(410) 787-7630

MR. ROBERT SNYDER
ASSISTANT DIVISION CHIEF,
TRAFFIC OPERATIONS
(410) 787-7631

MR. ED RODENHIZER
MANAGER, SIGNAL OPERATIONS
(410) 787-7650

MR. EUGENE BAILEY
MANAGER, SIGN OPERATIONS
(410) 787-7676

CONTACT PERSONS FOR MONTGOMERY COUNTY ARE AS FOLLOWS:

MR. KAMAL HAMUD
TRAFFIC ENGINEER
PHONE:(240) 777-8761

MR. BOB RICKETTS
MONTGOMERY COUNTY SIGNAL SHOP
PHONE:(301) 279-1291

EQUIPMENT LIST "A, B & C"

A. EQUIPMENT TO BE SUPPLIED BY THE SHA

ITEM NO.	DESCRIPTION
900000	SHEET ALUMINUM GROUND MOUNTED SIGN
1 - M3-3	30"x15"
1 - M1-4	36"x36"
1 - M6-1	30"x24"

900000	SHEET ALUMINUM MAST ARM/POLE MOUNTED SIGN
4 - R10-3(1)	9"x15"

900000 VIDEO DETECTION INTERFACE EQUIPMENT: 1-8 CAMERAS

B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR

ITEM NO.	DESCRIPTION
100000	MAINTENANCE OF TRAFFIC (PER INTERSECTION)
800000	2-WIRE APS CENTRAL CONTROL UNIT
800000	ADJUST HANDHOLE TO GRADE AND REPLACE FRAME AND COVER
800000	AUDIBLE/TACTILE PEDESTRIAN PUSHBUTTON STATION AND SIGNS
800000	16 INCH LED COUNTDOWN PEDESTRIAN SIGNAL HEAD
800000	IP-BASED VIDEO DETECTION CAMERA & ANY LENGTH LEAD-IN CABLE
800000	5 FOOT OR 10 FOOT PEDESTAL POLE WITH BREAKAWAY COUPLINGS, FOUNDATION & GROUND ROD
800000	REMOVE & DISPOSE OF EXISTING SIGNAL EQUIPMENT (PER SIGNALIZED INTERSECTION LOCATION)
800000	UP TO 4 INCH SCHEDULE 80 RIGID PVC CONDUIT - BORED OR SLOTTED
800000	UP TO 4 INCH SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED
800000	WOOD SIGN SUPPORTS UP TO 4 INCH X 6 INCH
800000	INSTALL OVERHEAD OR GROUND MOUNTED SIGN (INCLUDING ALL HARDWARE)
800000	THIRD PARTY CONCRETE TESTING (PER INTERSECTION)
802501	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
811001	FURNISH AND INSTALL ELECTRICAL HANDHOLE
860284	12 INCH LED VEHICULAR TRAFFIC SIGNAL HEAD SECTION
861105	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG)
861107	ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)

C. ALL MATERIALS TO BE REMOVED BY THE CONTRACTOR SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

UNIT QUANTITY

SF	18
SF	4
EA	1

UNIT QUANTITY

EA	1
EA	1
EA	1
EA	4
EA	1
EA	4
EA	3
EA	1
LF	165
LF	85
LF	19
SF	22
EA	1
LF	240
EA	1
EA	5
LF	630
LF	100

PHASING CHART

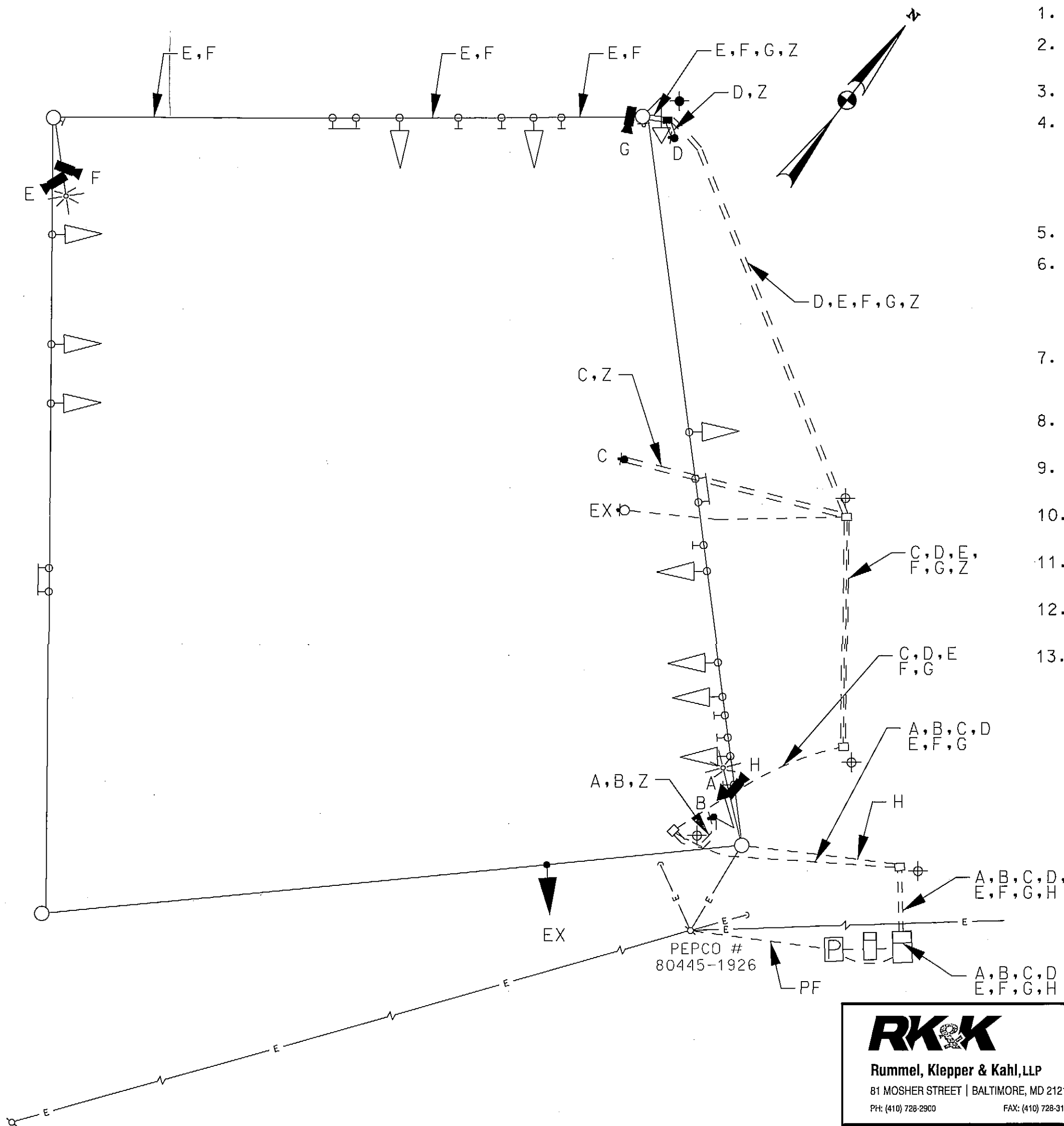
	1	2	3	4	5	6	7	8	9	10	11	12	13
	(R)	(R)	(R)	(R)	(R)	(R)	(R)	(R)	(R)	(R)	(R)	(R)	(R)
	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)	(Y)
	(B)	(B)	(B)	(B)	(B)	(B)	(B)	(B)	(B)	(B)	(B)	(B)	(B)
PHASE 2 AND 5	R	R	-R-	-R-	-G-	-G-	G	G	R	R	R	DW	DW
2 AND 5 CHANGE	R	R	-R-	-R-	-Y-	-Y-	G	G	-G-	-G-	R	DW	DW
PHASE 2 AND 6	G	G	-G-	-G-	-R-	-R-	G	G	R	R	R	DW	DW
2 AND 6 CHANGE	Y	Y	-G-	-G-	-R-	-R-	Y	Y	R	R	R	DW	DW
PHASE 4	R	R	-G-	-G-	-R-	-R-	R	R	G	G	G	DW	DW
4 CHANGE	R	R	-Y-	-Y-	-R-	-R-	R	R	Y	Y	Y	DW	DW
PHASE 4 ALT	R	R	-G-	-G-	-R-	-R-	R	R	G	G	G	WK	WK
PED CLEARANCE	R	R	-G-	-G-	-R-	-R-	R	R	G	G	G	FL/DW	FL/DW
4 ALT CHANGE	R	R	-Y-	-Y-	-R-	-R-	R	R	Y	Y	Y	DW	DW
FLASHING OPERATION	FL/YFL/Y	FL/YFL/Y	FL/YFL/Y	FL/YFL/Y	FL/YFL/Y	FL/YFL/Y	FL/YFL/Y	FL/YFL/Y	FL/YFL/Y	FL/YFL/Y	FL/YFL/Y	DARK	DARK

GENERAL NOTES

- THE CONTRACTOR SHALL VERIFY ALL PROPOSED POLE LOCATIONS PRIOR TO INSTALLATION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR TERMINATING ALL SIGNAL CABLE TO THE APPROPRIATE TERMINALS AND PROPERLY LABELING EACH CABLE.
- ALL UNUSED CABLE SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR.
- UNDERGROUND UTILITIES SHOWN ON THESE PLANS ARE SCHEMATIC ONLY AND MAY NOT BE COMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING "MISS UTILITY" PRIOR TO CONSTRUCTION SO THAT ALL UTILITIES MAY BE LOCATED IN THE FIELD. IF THE CONTRACTOR PERCEIVES THAT A CONFLICT BETWEEN THE UTILITIES AND THE TRAFFIC SIGNAL WILL OCCUR, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IMMEDIATELY SO THAT THE CONFLICT MAY BE RESOLVED.
- ALL PEDESTAL FOUNDATION TOPS SHALL BE INSTALLED FLUSH WITH SIDEWALK GRADE.
- LOCATION OF ACCESSIBLE PEDESTRIAN SIGNAL PUSHBUTTONS MUST MEET LOCATION REQUIREMENTS OF MUTCD SECTION 4E.10, MUTCD FIGURES 4E-3 AND 4E-4, AND THE NCHRP PUBLICATION, "ACCESSIBLE PEDESTRIAN SIGNALS: GUIDE TO BEST PRACTICE." IF NOT MET, THE CONTRACTOR IS TO STOP WORK ON PUSHBUTTON LOCATIONS UNTIL A DESIGN WAIVER IS OBTAINED, APPROVED BY THE DIRECTOR, OFFICE OF TRAFFIC AND SAFETY.
- PUSHBUTTONS ARE TO BE LOCATED SO THAT THEY CAN BE ACTIVATED BY A PERSON IN A WHEELCHAIR REACHING LESS THAN 18" FROM A 60" X 60" LEVEL LANDING AREA WITH A CROSS SLOPE OF LESS THAN OR EQUAL TO 2%.
- THE 10' SEPARATION BETWEEN PUSHBUTTONS IS TO BE MEASURED FROM FACE OF PUSHBUTTON TO FACE OF PUSHBUTTON, NOT CENTER OF POLE TO CENTER OF POLE.
- PUSHBUTTON ARROWS AND SIGNS ARE TO BE ORIENTED PARALLEL TO THE CROSSING FOR WHICH THEY ARE INTENDED.
- THE CONTRACTOR SHALL CAP AND ABANDON CONDUITS FEEDING EXISTING SIGNAL EQUIPMENT THAT IS REMOVED.
- THE CONTRACTOR SHALL CONTACT ED RODENHIZER AT THE SIGNAL SHOP (410) 787-7652 TO DELIVER APS EQUIPMENT FOR TESTING.
- ALL CONTROLLER CABINET WIRING WILL BE PERFORMED BY MONTGOMERY COUNTY FORCES. CONTACT MR. KAMAL HAMUD AT (240) 777-8761, 72 HOURS IN ADVANCE OF INTENDED WORK.
- VIDEO DETECTION CAMERA ALIGNMENT SHALL BE COORDINATED WITH THE ENGINEER.

WIRING KEY

A	5-CONDUCTOR ELECTRICAL CABLE (NO.14 AWG)
B,C,D	2-CONDUCTOR ELECTRICAL CABLE (NO.14 AWG)
E,F,G,H	IP-BASED VIDEO DETECTION CAMERA CABLE
Z	STRANDED BARE COPPER GROUND WIRE (NO.6 AWG)
EX	EXISTING CABLE
PF	EXISTING POWER FEED
+	EXISTING GROUND ROD
+	PROPOSED GROUND ROD



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SHA

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION

US 29 (COLUMBIA PIKE) AT
INDUSTRIAL PARKWAY
CALVERTON, MARYLAND

REVISIONS

GENERAL INFORMATION SHEET

SCALE NONE DATE MARCH 2013 CONTRACT NO. XY1515185

DESIGNED BY GS COUNTY MONTGOMERY

DRAWN BY GS LOGMILE 15002906.17

CHECKED BY BJG TMS NO. L740

FAP NO. TOD NO.

TS NO. 2271B-GI DRAWING SP-2 OF 6 SHEET NO. 2 OF 2

PLOTTED: Wednesday, March 27, 2013 AT 02:33 PM
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